

## SECTION II—CLAIMS

1-26 (Canceled)

27. (New) An apparatus, comprising:

a micro-electro-mechanical system (MEMS) die including at least one MEMS device and one or more MEMS contacts electrically coupled to the at least one MEMS device;

a cap coupled to the MEMS die to form an enclosure around the at least one MEMS device, the cap including one or more internal contacts, each internal contact being electrically coupled to a corresponding external contact by a via extending through the cap, wherein at least one of the internal contacts can be electrically coupled to at least one of the one or more MEMS contacts; and

a trace ring disposed within the enclosure and coupled to the at least one MEMS device, wherein one of an input terminal or an output terminal for the at least one MEMS device is coupled to the trace ring.

28. (New) The apparatus of claim 27 wherein the at least one MEMS device comprises a radio frequency (RF) switch array including at least one switch.

29. (New) The apparatus of claim 27 wherein the one or more MEMS contacts include an input terminal, an output terminal, and an actuation terminal.

30. (New) The apparatus of claim 29 wherein the input terminal is electrically coupled to a first internal contact, the output terminal is electrically coupled to a second internal contact, and the actuation terminal is electrically coupled to a third internal contact.

31. (New) The apparatus of claim 27 wherein the trace ring surrounds at least a portion of the at least one MEMS device to allow a signal to transit the MEMS module using at least one of the vias without crossing the trace ring.
32. (New) The apparatus of claim 27, further comprising a seal ring to couple the cap to the MEMS die such that the cap and the die sealingly enclose the at least one MEMS device.
33. (New) The apparatus of claim 27, further comprising a printed circuit board (PCB) coupled to at least one of the external contacts.
34. (New) The apparatus of claim 27 wherein at least one of the one or more internal contacts is a contact pad.
35. (New) An apparatus comprising:
- a MEMS die including an array of MEMS radio frequency (RF) switches and one or more MEMS contacts electrically coupled to at least one of the switches in the array;
  - a cap coupled to the MEMS die to form an enclosure around the array, the cap including one or more internal contacts, each internal contact being electrically coupled to a corresponding external contact by a via extending through the cap, wherein at least one of the internal contacts can be electrically coupled to at least one of the one or more MEMS contacts; and
  - a trace ring disposed within the enclosure and coupled to the array, wherein one of the input terminal or the output terminal is coupled to the trace ring.

36. (New) The apparatus of claim 35 wherein the cap is coupled to the MEMS die by a seal ring.
37. (New) The apparatus of claim 35 wherein the cap comprises Silicon.
38. (New) The apparatus of claim 35 wherein the cap comprises a ceramic material.
39. (New) The apparatus of claim 35 wherein the one or more MEMS contacts comprise:
- an input terminal electrically coupled to at least one switch in the array;
  - an output terminal coupled to at least one switch in the array; and
  - an actuation terminal electrically coupled to at least one switch in the array.
40. (New) The apparatus of claim 39 wherein the input terminal is electrically coupled to a first internal contact, the output terminal is electrically coupled to a second internal contact, and the actuation terminal is electrically coupled to a third internal contact.
41. (New) The apparatus of claim 39 wherein the MEMS die comprises a second MEMS RF switch array electrically coupled to a second input terminal and to a second actuation terminal, the second RF switch array electrically coupled to the output terminal.
42. (New) The apparatus of claim 35 wherein the trace ring surrounds at least a portion of the array to allow a signal to transit the array using at least one of the vias without crossing the trace ring.

43. (New) The apparatus of claim 35, further comprising a printed circuit board (PCB) electrically coupled to at least one of the external contacts.
44. (New) The apparatus of claim 35 wherein at least one of the one or more internal contacts is a contact pad.